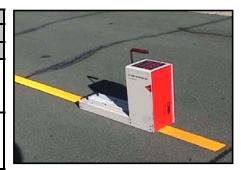
PAVEMENT MARKING DECISION MATRIX^{A,B}

9/18/2008

		AADT per Lane			
SURFACE TYPE	SURFACE CONDITION	Low	Medium	High ¹	
		<15,000	15,000-50,000	>50,000	
Asphalt/Open-Graded Surface Course	New (Pavement Life>5yrs)	waterborne	tape ³ waterborne epoxy ²	tape ³ epoxy ²	
	Fair (2 <pavement life<5="" th="" yrs)<=""><th>waterborne</th><th>waterborne epoxy²</th><th>tape⁵ waterborne epoxy²</th></pavement>	waterborne	waterborne epoxy ²	tape ⁵ waterborne epoxy ²	
	Poor (Pavement Life<2 yrs)	waterborne	waterborne	waterborne	
Concrete	New ¹ (Pavement Life>5yrs)	waterborne	tape ³ polyurea waterborne epoxy ²	grooved tape ³ grooved polyurea grooved epoxy ² grooved waterborne	
	Fair (2 yrs <pavement life<5="" th="" yrs)<=""><th>waterborne</th><th>waterborne epoxy²</th><th>polyurea waterborne epoxy²</th></pavement>	waterborne	waterborne epoxy ²	polyurea waterborne epoxy ²	
	Poor (Pavement Life<2 yrs)	waterborne	waterborne	waterborne	
Chip Seal/Thin Overlay < 1.5"	More than 1 year	waterborne	waterborne epoxy ²	waterborne epoxy ²	
	Less than 1 year	waterborne	waterborne	waterborne	







General Notes:

- A. Intended for use as a general guide and is based on performance history in Utah. Projects with special conditions may require independent decisions based on sound engineering judgement.
- B. All pavement marking type options are listed in the order of priority/recommended installations See Material Information sheet for relative costs.

Specific Notes:

- 1. For all AADT > 50,000 and for new concrete interstate, grooving is recommended for all pavement marking types in ultimate build out conditions (full width) with no anticipated long term lane line changes
- 2. All epoxy permitted by Special Provision only. Manufacturer's warranty should be required.
- 3. Roadway lighting increases the visibility of tape installed in urban areas.

Pavement Marking Material Information 9/18/2008										
Material	Estimated Cost per linear foot ² (2008) dollars)	Actual Performance on Utah Roads ¹	Manufacturers Estimated Life of Product	Application Temperature	Initial Retroreflectivity (mcd/m²/lux)	Advantages	Disadvantages			
Water Paint - Water- borne (alkyd formula)	\$0.03 -\$0.05	7.5-34 Months	9 - 36 Months	Air and pavement temperature above 32°F	275 - white 180 -yellow (beads - 8 lbs/gallon)	Inexpensive Quick-drying Longer life on low- volume roads Easy clean-up and disposal No collection of hazardous waste products	Short life on high-volume roads Subject to damage from sands/abrasives Bead application required Does not adhere as well to concrete Pavement must be warm or it will not adhere			
Ероху	\$0.20 - \$0.30	31-46 Months	36-48 Months	Air and pavement temperature above 50°F	300 - white 200 - yellow (beads - 25 lbs/gallon)	Longer life on low and high volume roads More retroreflective	Slow-drying Requires coning and flagging during application Heavy bead application required which will need to be cleaned off of roadway High initial expense Subject to damaged sands/abrasives			
Thermoplastic	N/A	Data pending	36 - 72 Months	All temperatures	275 - white 180 -yellow	Long life on low and high volume roads Retroreflective No beads needed Any temperature for application	Subject to damage from sands/abrasives May suffer snowplow damage			
Таре	\$1.50 - \$2.65	25-95 Months	48 - 96 Months	Minimum temperature: Air-60°F Pavement - 70°F bituminous - 120° - 150°F	350 - white 250 - yellow	Highly retroreflective Long life on low and high volume roads Useful in high traffic areas Reduces worker exposure to road hazards because of long life	High initial expense Best when only used on new surfaces (not worth the expense to use on older roads) May suffer snowplow damage			
PolyUrea	\$1.50 - \$2.00	36-72 Months	24-36 Months	Minimum temperature: Air-40°F Pavement - 40°F	725 - white 560 - yellow	Quick-drying Lower temperature for application Non-yellowing binder Good adhesion and retro readings on concrete Predicted life comparable to tape at less cost	U ntested on asphalt in Utah			

 $^{{\}bf 1.}\ \ {\bf Based\ on\ decaying\ exponential\ trendline\ modeling\ of\ currently\ compiled\ retroreflectivity\ data.}$

2. Add \$0.50/ft for diamond grind grooving





